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Coffee consumption may lower blood uric acid levels -- the precursor of gout

High uric acid levels in the blood are a precursor of gout, the most common inflammatory arthritis in adult men. It is believed that coffee and tea consumption may affect uric acid levels but only one study has been conducted to date. A new large-scale study published in the June 2007 issue of Arthritis Care & Research (http://www.interscience.wiley.com/journal/arthritiscare) examined the relationship between coffee, tea, caffeine intake, and uric acid levels and found that coffee consumption is associated with lower uric acid levels but that this appears to be due to components other than caffeine.

Coffee is one of the most widely consumed beverages in the world; more than 50 percent of Americans drink it at the average rate of 2 cups per day. Because of this widespread consumption, its potential effects have important implications for public and individual health. Led by Hyon K. Choi, of the University of British Columbia in Vancouver, Canada, the current study was based on the U.S. Third National Health and Nutrition Examination Survey, conducted between 1988 and 1994. It included over 14,000 men and women at least 20 years old who consented to a medical exam in which blood and urine specimens were obtained. Coffee and tea consumption were determined based on responses to a food questionnaire that assessed intake over the previous month. Researchers estimated the amount of caffeine per cup of coffee or tea using data from the U.S. Department of Agriculture.

The results showed that levels of uric acid in the blood significantly decreased with increasing coffee intake, but not with tea intake. In addition, there was no association between total caffeine intake from beverages and uric acid levels. These results were similar to those found in the only previous study on the topic, which was conducted in Japan. Interestingly, there was an association between decaffeinated coffee consumption and uric acid levels. "These findings suggest that components of coffee other than caffeine contribute to the observed inverse association between coffee intake and uric acid levels," the researchers state.

A recent study found that coffee was associated lower C peptide levels (a marker of insulin levels). The researchers in the current study suggest that because there is a strong relationship between insulin resistance and elevated uric acid levels, the decreased insulin levels associated with coffee consumption may lead to lower uric acid levels. Coffee is also a major source of chlorogenic acid, a strong antioxidant, which may improve insulin sensitivity. Chlorogenic acid also helps inhibit glucose absorption in the intestine; in another study decaffeinated coffee seemed to delay intestinal absorption of glucose and increase concentrations of glucagon-like peptide 1, which is well known for its beneficial effects on insulin secretion and action. The researchers note further that their results could be due to an effect of non-caffeine components found in coffee, which would also explain why coffee affected uric acid levels but tea did not.

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Article: "Coffee, Tea, and Caffeine Consumption and Serum Uric Acid Level: The Third National Health and Nutrition Examination Survey," Hyon K. Choi, Gary Curhan, Arthritis Care & Research, June 2007; 57:5; (DOI: 10.1002/art.22762).
